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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
YOO, JASSON H	
ART UNIT	**PAPER NUMBER**
3714	
MAIL DATE	**DELIVERY MODE**
07/20/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/806,508	STITES ET AL.	
	Examiner	Art Unit	
	Jasson H. Yoo	3714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 June 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-66* is/are pending in the application.

4a) Of the above claim(s) *14-65* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13 and 66* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/10/09*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/10/09 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-5, 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Storek (US 2004/0259651) in view of Lee (US 2001/0053720).

Claim 1. Storek discloses a self contained instrumented golf club (11 in Fig. 4), the golf club comprising: a first accelerometer module mounted in a head of the golf club (Inertial Navigation System 10 in Figs. 1 and 4, paragraphs 39, 41-44, 49, 51-55,

69).; and a second accelerometer module mounted in a shaft of the golf club (Inertial Navigation System 10 in Figs. 1 and 4, paragraphs 39, 41-44, 49, 51-55, 69).

Storek discloses the accelerometer module is mounted within the head of the golf club but fails to teach the accelerometer is removable. Nevertheless, such modification would have been obvious to one of ordinary skilled in the art. In an analogous art to accelerometers used for golf clubs, Lee discloses an accelerometer mounted within the head of the golf club (accelerometer board 116 in Fig. 5 contain accelerometers 124, 126, 128 and 130; paragraph 52, 54-55). Lee also discloses that components in the head are modular and thus are easily replaceable if damaged (paragraph 57). Such replacement is performed via the removable sole plate. Therefore it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify Storek's golf club, and incorporate a removable accelerometer module as taught by Lee, in order to replace the accelerometer if damaged. Furthermore, it is obvious to have elements of an apparatus separable. Having a removable accelerometer module would allow the user to easily remove the accelerometer module for the purpose of using the golf club without the accelerometer. See *In re Dulberg*. Therefore it would have been obvious to one of ordinary skill in the art to modify Storek and incorporate a removable accelerometer in order to use the golf club without the accelerometer.

Claim 2. Storek in view of Lee discloses an instrumented golf club as discussed above. However, Storek in view of Lee fails to teach that the weight of the first accelerometer and thee second accelerometer do not change the balance or center of

gravity of the club. Nevertheless, it would have been obvious to one of ordinary skilled in the art to design the attachments of the accelerometers to not change the center of gravity of club. Having an offset balance golf club will affect a user's swing. Having the accelerometers so they do not change the balance or center of gravity of the club will allow the user to swing the instrumented golf club as if it were a normal golf club. Therefore it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify Storek's instrumented golf club, and have the balance or center of gravity of the club unchanged in order to allow the user to swing the instrumented golf club as if it were a normal golf club.

Claims 3, 4. Storek in view of Lee discloses the claimed invention except the head of the golf club is a wood or iron. However it is notoriously well known in the art that wood or iron is used for the head of a golf club. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the head of the golf club wood or iron since it was known in the art to use wood or iron for the head of golf clubs.

Claim 5. Storek in view of Lee discloses the instrumented golf club of claim 1, wherein the first accelerometer module senses acceleration along three orthogonal axes (Storek, paragraphs 27, 42, 49, 51-55, 69, 71-72).

Claim 10. Storek in view of Lee discloses the instrumented golf club of claim 1, further including a transmission module that wirelessly transmits golf swing data (Storek, RF or IR, paragraph 84).

Claim 11. Storek in view of Lee discloses a computer-readable medium containing computer-executable instructions for causing a transmission module embedded within a golf club to perform the steps of (Storek, hardware and software of the Inertial Navigation System, pargraph 5): receiving first golf swing data from a first accelerometer module mounted in a head of the golf club; receiving second golf swing data from a second accelerometer module mounted in a shaft of the golf club; and transmitting the first and second golf swing data (Storek, Inertial Navigation System 10 in Figs. 1 and 4, paragraphs, 39, 41-44, 49, 51-55, 69, 84).

Claims 7-8, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Storek (US 2004/0259651) in view of Lee (US 2001/0053720) as applied to claim 1, 11 above, and further in view of Gedney et al. (US 5,209,483).

Claims 7, 8. Storek in view of Leediscloses a training golf club that specifically analyzes the swing of the user as discussed above. However, Storek in view of Lee fails to teach the golf club includes an impact module configured to sense the location of impact with a golf ball, wherein the impact module comprises an array of strain gauges. Storek specifically discloses a training golf club that specifically measures the swing of

the user. Nevertheless impact modules for golf clubs are well known in the art. In an analogous art to training golf clubs, Gedney discloses a golf club including an impact module configured to sense the location of impact with a golf ball, wherein the impact module comprises an array of strain gauges (Force sensors, Figs. 1-2B). Storek's training golf club is used to measure the force and the location the ball was hit in respect to the golf club's head (cols. 1-9). Therefore it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify Storeks in view of Lee's training golf club that analyzes the swing of the user and incorporate Gedney impact module configured to sense the location of impact with a golf ball, wherein the impact module comprises an array of strain gauges in order to provide a golf club that can also be used measure the force and the location the ball was hit in respect to the golf club's head.

Claim 12. See claim 7 above. Furthermore Storek and Gedney discloses a computer-readable medium (Storek, paragraph 5; Gedney, cols. 6:19-27, 6:67-7:5).

Claims 9, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Storek (US 2004/0259651) in view of Lee (US 2001/0053720) and in view Gedney et al. (US 5,209,483) as applied to claims 7 and 12 above, and further in view of McTeigue. (US 5,221,088).

Claim 9. The combination of Storek, Lee and Gedney discloses the claimed invention as discussed above but fails to teach golf club includes a grip pressure sensor. However it is well known in the art to provide grip pressure sensors for sporting apparatuses. In an analogous art to golf clubs that measures and analysis's the golf swing, McTeigue discloses golf club with a grip pressure sensor. McTeigue discloses the grip pressure sensor is used as a training aid, by help users learn to maintain a relatively light and constant grip pressure while swinging the golf club (col. 4:24-43). Therefore it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify Storek in view of Lee and in view of Gedney's invention and incorporate a grip pressure sensor as taught by McTeigue in order to train users in maintaining a relatively light and constant grip pressure while swinging the golf club.

Claim 13. See rejection for claim 9 above. Furthermore Storek and McTeigue discloses a computer readable medium (Storek, paragraph 5; McTeigue, col. 7:44-51).

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Storek (US 2004/0259651) in view Lee (US 2001/0053720) as applied to claim 1, and further in view of Evans (US 3,792,863) as supported by Lagerblade (US 1,444,842).

Claim 6. The combination of Storek and Lee discloses the instrumented golf club as discussed in claim 1, wherein the golf swing data is transmitted to computer through radio frequency or infrared (Storek, paragraph 84). However, the combination of Storek

and Lee fails to disclose an antenna that comprises a ferrule that connects the head of the golf club to the shaft of the golf club. Nevertheless, such features would have been obvious to one of ordinary skilled in the art. In an analogous art to a golf swing measurement system, Evans discloses an antenna to transmit the data wirelessly. Evans further discloses the shaft of the golf club may serve as a transmitting antenna (col. 2:17-19). Using the shaft of the golf club as an antenna, will efficiently radiate wireless signals without attaching an additional antenna to the golf club. Evans generally teaches that the shaft of the golf club can be used as an antenna but is not specific to the ferrule part of the shaft. However, a ferrule of the golf club is considered as part of the golf club shaft, commonly used to connect the head of the golf club to the shaft of the golf club in order to secure the head of the golf club to the shaft of the golf club. Furthermore, the ferrule prevents the shaft from splitting. This is supported by Lagerblade (lines 102-108). Therefore it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify Storek in view of Lee's instrumented golf club and incorporate Evans' shaft comprising a ferrule as supported by Lagerblade as an antenna in order transmit wireless signals through an antenna without attaching an additional antenna to the golf club.

Furthermore, the specific location and part of the antenna is a design choice. Applicant specification (paragraph 29 of US 2005/0215340) explicitly discloses that the shaft can be used as the antenna or the antenna may be plated on to the shaft, grip or any other location. Applicant also discloses the ferrule may be formed of metal material or other type of antenna material. Thus the specific type of material and the location of

the antenna is clearly a design choice. Therefore it would have been obvious to one of ordinary skilled in the art to modify Storek in view of Lee's golf club and use any part of the golf club such as the ferrule as the antenna, since Applicant explicitly indicated that different parts of the golf club can be used as the antenna.

Claim 66 is rejected under 35 U.S.C. 103(a) as being unpatentable over Storek (US 2004/0259651) view of Evans (US 3,792,863) as supported by Lagerblade (US 1,444,842).

Claim 66. Storek discloses a self contained instrumented golf club (11 in Fig. 4), the golf club comprising: a first accelerometer module mounted in a head of the golf club (Inertial Navigation System 10 in Figs. 1 and 4, paragraphs 39, 41-44, 49, 51-55, 69).; and a second accelerometer module mounted in a shaft of the golf club (Inertial Navigation System 10 in Figs. 1 and 4, paragraphs 39, 41-44, 49, 51-55, 69). Storek discloses the claimed invention but fails to disclose an antenna that comprises a ferrule that connects the head of the golf club to the shaft of the golf club. Nevertheless, such features would have been obvious to one of ordinary skilled in the art. In an analogous art to a golf swing measurement system, Evans discloses an antenna to transmit the data wirelessly. Evans further discloses the shaft of the golf club may serve as a transmitting antenna (col. 2:17-19). Using the shaft of the golf club as an antenna, will efficiently radiate wireless signals without attaching an additional antenna to the golf club. Evans generally teaches that the shaft of the golf club can be used as an antenna

but is not specific to the ferrule part of the shaft. However, a ferrule of the golf club is considered as part of the golf club shaft, commonly used to connect the head of the golf club to the shaft of the golf club in order to secure the head of the golf club to the shaft of the golf club. Furthermore, the ferrule prevents the shaft from splitting. This is supported by Lagerblade (lines 102-108). Therefore it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify Storek instrumented golf club and incorporate Evans' shaft comprising a ferrule as supported by Lagerblade as an antenna in order to transmit wireless signals via an antenna without attaching an additional antenna to the golf club.

Furthermore, the specific location and part of the antenna is a design choice. Applicant specification (paragraph 29 of US 2005/0215340) explicitly discloses that the shaft can be used as the antenna or the antenna may be plated on to the shaft, grip or any other location. Applicant also discloses the ferrule may be formed of metal material or other type of antenna material. Thus the specific type of material and the location of the antenna is clearly a design choice. Therefore it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify Storek's golf club and use any part of the golf club such as the ferrule as the antenna, since Applicant explicitly indicated that different parts of the golf club can be used as the antenna.

Response to Arguments

Applicant's arguments with respect to claims 1-13, 66 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jasson H. Yoo whose telephone number is (571)272-5563. The examiner can normally be reached on 9:00am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dmitry Suhol can be reached on (571) 272-4430. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dmitry Suhol/
Supervisory Patent Examiner, Art Unit 3714

JHY